The festival committee was much gratified over the weather during the festival. Nothing better could have been desired. Four days before the great event came off the committee made a request of Mr. L. M. Pindell, the Weather Bureau Observer in charge here, for a prediction of the festival weather. This was furnished to Washington and a long advance forecast three days ahead was made for the week. The prediction was verified to the letter. The committee feels under great obligations to the Weather Bureau and Mr. Pindell.

From May 23 to 25, inclusive, a Peace Jubilee was held in Washington, D. C. As this was an open air celebration, a knowledge of the probable character of the weather during the three day period which it covered was valuable to the committee on arrangements. The weather had been unseasonably warm, and this was a condition which in common with rain was not calculated to contribute to the success of the undertaking. On Monday morning, May 22, the following forecast for the District of Columbia was made:

Continued cool during the next three days; to-night will be cloudy and threatening, but generally fair weather is indicated for Tuesday, Wednesday, and Thursday; fresh northeasterly winds.

Barring a shower which passed over the eastern part of the District early Tuesday afternoon, no rain fell during the three days, the temperature conditions were ideal, and the forecast, made for a period of four days in the presence of weather conditions which were far from being settled, indicated with great exactness the character of the weather which actually prevailed during the days of the Jubilee.

CHICAGO FORECAST DISTRICT.

The month was remarkably free from severe storms. A storm moved from the Rocky Mountain region eastward to the Lakes from the 25th to the 29th, causing strong winds and thunder squalls on the upper lakes. Warning messages for high winds and severe squalls were issued to all points. At 6 p. m. of the 30th, signals were ordered up at all stations in advance of a storm which was then in the Dakotas. High southerly winds and squalls accompanied the progress of the storm across this region on the 31st.

Aside from the forecasts of freezing temperature, which were sent to the Northwestern States early in the month, the frost conditions during May were not a notable factor.

The thunderstorms which occurred in the district were, as a rule, accurately forecast, and the severe storms which occurred during the latter part of the month were well covered both in the State and general forecasts. The general forecast issued on the 30th was as follows:

The indications are that the western storm will move eastward, causing severe and dangerous thunderstorms and squalls in the Western States this afternoon and to-night, and in this section before Wednesday morning.

The press dispatches and weather reports on the following day showed that the forecast was entirely verified.—*H. J. Cox, Professor.*

PORTLAND, OREG., FORECAST DISTRICT.

A special river bulletin was issued May 6, giving the amount of snow in the mountains, and a general discussion of conditions prevailing and probability of a flood. This bulletin was distributed to interested persons and it has been most favorably commented upon.

The river forecasts cover periods of from 2 to 6 days, and all have been verified, not one being 0.5 of a foot from the height that did occur. Merchants moved goods from cellars and docks when advised to do so by this office; mills and canneries close when the river forecast indicates to the owners that danger is imminent; farmers plow on the river slope down to expected high water, and haying is commenced before the expected height is reached. Railroads strengthen bridges and embankments. All persons interested rely almost implicitly upon the river forecasts.

Frost warnings were issued on the 1st, 11th, 18th, and 19th, and were in each case generally verified.—*B. S. Pague, Forecast Official.*

SAN FRANCISCO FORECAST DISTRICT.

On May 1 a forecast was made for colder weather in Utah and Arizona; and the morning map of the 2d showed a decided fall in temperature over this district, and temperatures below freezing over Nevada, Utah, and northern Arizona. This condition continued during the 3d and 4th. Frost warnings were not issued as vegetation was not sufficiently advanced. On the evening of the 30th of May rain warnings were issued for northern California. On the morning of May 31 more complete warnings were sent throughout the entire State of California, and also to Nevada and western Arizona. In due time warnings were sent to Utah and eastern Arizona. These warnings of rain coming in the dry season, and when there were no local indications of an impending rain, received wide attention, as hay was very generally cut throughout California. The forecasts were verified in every particular, unusually heavy rains being reported on the last day of May and the first day of June throughout California.

Forecasts of rain in the desert regions were verified notwithstanding these forecasts were issued during the so-called dry season.

The rivers have been full but there have been no reports of flood or damage by overflows.—*Alexander G. McAdie, Forecast Official.*

AREAS OF HIGH AND LOW PRESSURE.

During the month the paths of six high areas and of nine low areas were sufficiently well defined to be traced on Charts I and II. The accompanying table gives the principal facts regarding the first and last appearance, the duration, and the velocity of these highs and lows. The following description is added:

Movements of centers of areas of high and low pressure.

Number.	First observed.			Last observed.			Path.		Average velocities.	
	Date.	Lat. N.	Long. W.	Date.	Lat. N.	Long W.	Length.	Duration.	Daily.	Hourly.
High areas.		°	°		°	°	*Miles.*	*Days.*	*Miles.*	*Miles.*
I	1, p.m.	43	128	6, p.m.	41	70	3,240	5.0	648	27.0
II	7, p.m.	43	107	11, a.m.	32	79	2,940	3.5	840	35.0
III	11, p.m.	46	126	18, p.m.	47	59	4,140	7.0	591	24.6
IV	17, a.m.	59	105	22, p.m.	42	72	1,860	5.5	338	14.1
V	20, a.m.	43	122	26, p.m.	32	79	3,360	6.5	517	21.5
VI	27, a.m.	52	93	29, p.m.	46	59	1,620	2.5	648	27.0
Total							17,160	30.0	3,582	149.2
Mean of 6 paths							2,860		597	24.9
Mean of 30.0 days									572	23.8
Low areas.										
I	*30, a.m.	50	119	4, a.m.	51	101	2,460	4.0	615	25.6
II	4, a.m.	52	123	10, p.m.	49	54	4,860	6.5	748	31.2
III	7, p.m.	54	116	12, a.m.	44	68	2,400	4.5	533	22.2
IV	10, p.m.	52	116	14, p.m.	51	68	2,880	4.0	720	30.0
V	12, p.m.	34	114	21, a.m.	43	64	3,540	8.5	417	17.4
VI	17, p.m.	47	115	22, a.m.	35	100	1,530	4.5	340	14.2
VII	23, a.m.	43	115	28, a.m.	44	80	2,070	5.0	414	17.2
VIII	27, a.m.	39	100	31, a.m.	52	64	2,070	4.0	518	21.6
IX	29, p.m.	51	116	†2, a m.	48	62	2,820	4.5	783	32.6
Total							24,630	45.5	5,088	212.0
Mean of 9 paths							2,737		565	23.6
Mean of 45.5 days									541	22.6

* April. † June.

Highs.—Three of the high areas began off the north Pacific coast. Nos. IV and VI were first noted in Manitoba and No. II was first seen in Wyoming. The general direction was toward the east or south of east. Nos. III and VI passed off the Nova Scotia coast, Nos. I and IV were last noted off the middle Atlantic coast, and Nos. II and V disappeared off the south Atlantic coast.

Lows.—Of the lows, Nos. I, II, III, IV, and IX were first noted to the north of Montana, Nos. VI and VII in Idaho, No. V in Arizona, and No. VIII in Kansas. The general direction was east or north of east. No. I was last noted in Manitoba, No. VI in Oklahoma, No. VII in Ontario, and the remaining six were last seen in Nova Scotia or the Gulf of St. Lawrence. The following high winds were reported in connection with these storms. On the evening of the 2d, as the last storm of April passed into the Atlantic, New York reported a northwest wind of 56 miles an hour. On the evening of the 12th, as low No. IV reached the upper Lakes, Marquette reported a south wind of 42 miles. On the evening of the 16th, as low No. V approached the Lake regions, Buffalo reported a west wind of 60 miles. As low No. VII approached the upper Lakes Chicago experienced a south wind of 56 miles. On the a. m. of the 29th, as low No. VIII approached the upper Lakes Chicago reported a southwest wind of 52 miles.—*H. A. Hazen.*

RIVERS AND FLOODS.

River conditions during the month of May were devoid of general interest. The Mississippi, below Helena, Ark., was still above danger line at the beginning of the month, but was falling steadily, and on the 10th fell below the danger line at New Orleans. The Atchafalaya remained above the danger line until the 24th, and fell slightly thereafter.

From the 7th to the 13th there was a moderate flood in the Arkansas River from the Indian Territory eastward, due to excessive rains over this portion of the river basin, Webbers Falls, Ind. T., reported a stage of 24.8 feet on the 8th, or 1.8 above danger line. The danger line of 22 feet was passed at Fort Smith on the 8th, and a maximum stage of 26.4 feet reached on the 9th. Warnings that bottom lands would be overflowed were issued on the 6th, and were fully verified.

At Little Rock the danger stage of 23 feet was reached on the 9th, and a maximum stage of 24.5 feet attained on the 11th, the waters remaining above the danger line until the 13th. A special warning for a 25-foot stage at Little Rock was issued on the 8th, and given the widest possible distribution. Levees were strengthened, and stock and other portable property removed to higher ground.

Considerable damage was done to some of the more exposed farming lands, and backwater inundated a few plantations. Below Little Rock between 5,000 and 6,000 acres of bottom lands were submerged, and 1,000 acres above.

On the Pacific coast the annual rise of the Columbia began about the middle of the month, but nothing of consequence had resulted by the end of the month.

The highest and lowest water, mean stage, and monthly range at 127 river stations are given in the accompanying table. Hydrographs for typical points on seven principal rivers are shown on the accompanying chart. The stations selected for charting are: Keokuk, St. Louis, Cairo, Memphis, Vicksburg, and New Orleans on the Mississippi; Cincinnati, on the Ohio; Nashville, on the Cumberland; Johnsonville, on the Tennessee; Kansas City, on the Missouri; Little Rock, on the Arkansas; and Shreveport, on the Red.—*H. C. Frankenfield, Forecast Official.*

Heights of rivers referred to zeros of gages, May, 1899.

Stations.	Distance to mouth of river.	Danger line on gage.	Highest water.		Lowest water.		Mean stage.	Monthly range.
			Height.	Date.	Height.	Date.		
Mississippi River.	*Miles.*	*Feet.*	*Feet.*		*Feet.*		*Feet.*	*Feet.*
St. Paul, Minn	1,957	14	7.6	8	5.7	27,30,31	6.4	1.9
Reads Landing, Minn	1,887	12	7.1	8	5.0	18,19,28	5.9	2.1
La Crosse, Wis	1,822	12	8.8	8-10	6.9	20	7.8	1.9
North McGregor, Iowa	1,762	18	10.8	12	7.8	23-25	9.3	3.0
Dubuque, Iowa	1,702	15	11.2	1	7.8	25,27	9.6	3.4
Leclaire, Iowa	1,612	10	7.5	2	5.2	26	6.6	2.3
Davenport, Iowa	1,596	15	9.6	2	6.4	26,27	8.3	3.2
Muscatine, Iowa	1,565	16	11.2	3	7.9	27	9.9	3.3
Galland, Iowa	1,475	8	6.1	22	4.4	27-29	5.2	1.7
Keokuk, Iowa	1,466	14	12.4	22	7.8	28	9.4	4.6
Hannibal, Mo	1,405	17	15.0	23	9.7	14,15	11.4	5.3
Grafton, Ill	1,307	23	18.3	25	12.0	16	14.6	6.3
St. Louis, Mo	1,264	30	25.1	1	17.9	20	20.4	7.2
Chester, Ill	1,189	36	20.9	2	15.0	21	17.9	5.9
Memphis, Tenn	843	33	26.3	2	20.5	12	23.3	5.8
Helena, Ark	767	42	37.1	1-3	29.8	13,14	33.4	7.3
Arkansas City, Ark	635	42	44.1	1	37.6	31	40.1	6.5
Greenville, Miss	595	42	38.4	1	31.9	31	34.5	6.5
Vicksburg, Miss	474	45	45.6	1	37.4	31	40.9	8.2
New Orleans, La	108	16	16.6	1	13.6	30,31	15.7	3.0
Missouri River.								
Bismarck, N. Dak	1,201	14	9.1	26	4.8	7	6.2	4.3
Pierre, S. Dak	1,006	14	9.3	28	5.7	12	6.9	3.6
Sioux City, Iowa	676	19	12.4	31	8.8	15,21,22	10.2	3.6
Omaha, Nebr	561	18	12.4	31	9.4	16	10.7	3.0
Plattsmouth, Nebr	533	17	8.9	31	6.3	17,19; 23,24	7.2	2.6
St. Joseph, Mo	373	10	8.7	1	6.5	18,19	7.6	2.2
Kansas City, Mo	280	21	18.6	1	13.2	19	15.9	5.4
Boonville, Mo	191	20	19.7	1	11.7	18,19	14.2	8.0
Hermann, Mo	95	24	18.4	1	12.1	21	14.7	6.3
Des Moines River.								
Des Moines, Iowa	150	19	7.4	31	3.8	26-28	4.5	3.6
Illinois River.								
Peoria, Ill	135	14	8.7	1	6.7	14-16	7.5	2.0
Beardstown, Ill	70	12	11.9	30	8.5	19,20	9.7	3.4
Osage River.								
Bagnell, Mo	70	28	18.0	12	3.9	24	6.6	14.1
Gasconade River.								
Arlington, Mo	58	16	8.3	12	—0.1	31	2.2	8.4
Youghiogheny River.								
Confluence, Pa	59	10	9.5	15	2.0	1,29	3.6	7.5
West Newton, Pa	15	23	12.1	19	1.1	2	2.8	11.0
Allegheny River.								
Warren, Pa	177	7	3.0	4	1.2	16,17	1.8	1.8
Oil City, Pa	123	13	5.0	18	1.6	16	2.6	3.4
Parkers Landing, Pa	73	20	6.5	19	1.3	15,16	2.8	5.2
Monongahela River.								
Weston, W. Va	161	18	2.4	12	— 0.8	28,29	0.4	3.2
Fairmont, W. Va	119	25	8.8	18	0.6	29-31	3.7	8.2
Greensboro, Pa	81	18	14.9	19	7.0	29-31	9.1	7.9
Lock No. 4, Pa	40	28	19.5	19	7.0	31	9.8	12.5
Conemaugh River.								
Johnstown, Pa	64	7	8.7	18	1.5	2	2.3	7.2
Red Bank Creek.								
Brookville, Pa	35	8	3.5	18	0.5	16	1.0	3.0
Beaver River.								
Ellwood Junction, Pa	10	14	7.3	18	0.6	13-16	1.2	6.7
Great Kanawha River.								
Charleston, W. Va	61	30	16.5	10	5.0	22,23	7.5	11.5
New River.								
Hinton, W. Va	95	14	6.2	9	2.1	29	3.4	4.1
Cheat River.								
Rowlesburg, W. Va	36	14	7.5	18	2.0	29-31	3.5	5.5
Ohio River.								
Pittsburg, Pa	966	22	18.1	19	2.9	2	5.7	15.2
Davis Island Dam, Pa	960	25	17.0	19	4.7	29	7.1	12.3
Wheeling, W. Va	875	36	22.6	20	5.8	4,29	8.5	16.8
Parkersburg, W. Va	785	36	20.0	21	7.0	28,29	9.3	13.0
Point Pleasant, W. Va	703	39	20.6	22	5 8	30	10.9	14.8
Catlettsburg, Ky	651	50	23.8	22	8.2	30	14.6	15.6
Portsmouth, Ohio	612	50	23.1	23	9.2	31	15.4	13.9
Cincinnati, Ohio	499	50	24.0	24	11.7	31	17.4	12.3
Louisville, Ky	367	28	9.6	14	6.4	31	7.9	3.2
Evansville, Ind	184	35	22.7	16	11.8	4	15.7	10.9
Paducah, Ky	47	40	24.1	17	14.8	10	18.9	9.3
Cairo, Ill	1,073	45	34.1	1	26.4	10	30.4	7.7
Muskingum River.								
Zanesville, Ohio	70	20	12.5	30	6.4	16	7.5	6.1
Miami River.								
Dayton, Ohio	69	18	2.2	8	1.3	26,28,29	1.7	0.9
Wabash River.								
Mount Carmel, Ill	50	15	7.0	17	3.2	31	5.0	3.8
Licking River.								
Falmouth, Ky	30	25	6.4	14	1.4	29-31	3.3	5.0
Clinch River.								
Speers Ferry, Va	156	20	6.7	14	0.4	29	2.2	6.3
Clinton, Tenn	46	25	15.0	9	4.6	29,30	8.2	10.4
Tennessee River.								
Knoxville, Tenn	614	28	4.8	9	0.6	29,30	2.2	4.2
Kingston, Tenn	534	25	8.1	10	2.2	29	4.2	5.9
Chattanooga, Tenn	430	33	11.2	11	4.2	30	7.2	7.0
Bridgeport, Ala	390	24	8.5	11,12	2.5	30,31	5.2	6.0
Florence, Ala	220	16	7.4	13	2.4	31	5.0	5.0
Riverton, Ala	190	25	9.6	14	2.5	31	6.3	7.1
Johnsonville, Tenn	94	21	12.3	1	4.1	31	7.9	8.2
Cumberland River.								
Burnside, Ky	434	50	35.0	8	2.4	30	9.2	32.6
Carthage, Tenn	257	30	25.9	11	2.7	31	10.0	23.2
Nashville, Tenn	175	40	29.4	13	4.3	31	13.8	25.1
Arkansas River.								
Wichita, Kans	720	10	2.6	24	1.3	19	1.8	1.3
Webbers Falls, Ind. T	407	22	24.8	8	5.6	3	11.7	19.2